The Red Eye

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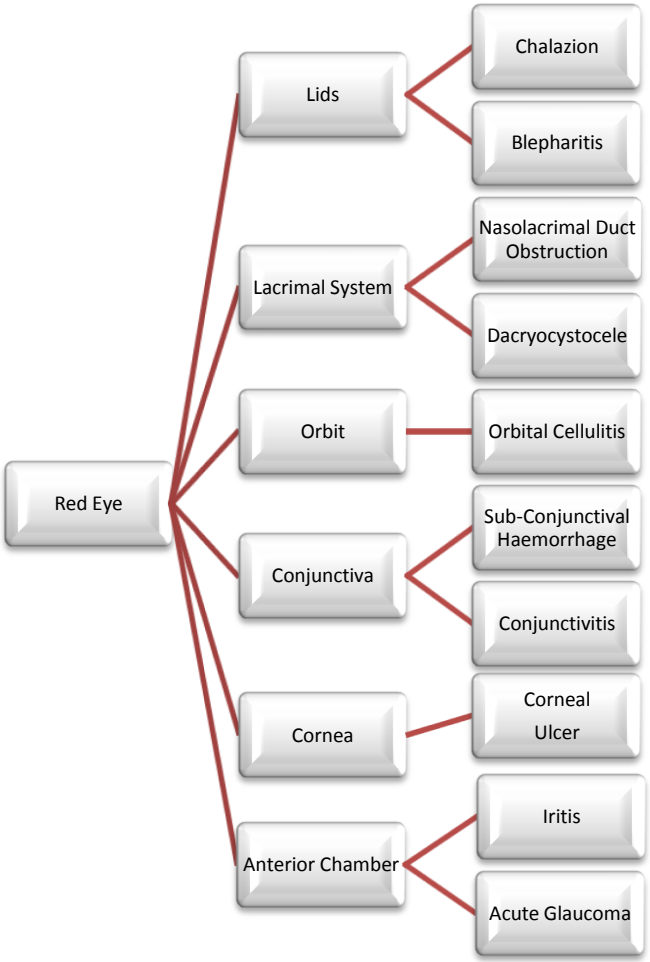
Learning Objectives

- Less painful causes of red eye
- More painful causes or red eye
- Emergency
- Treatment
- Management

Anatomical classification



History and Examination

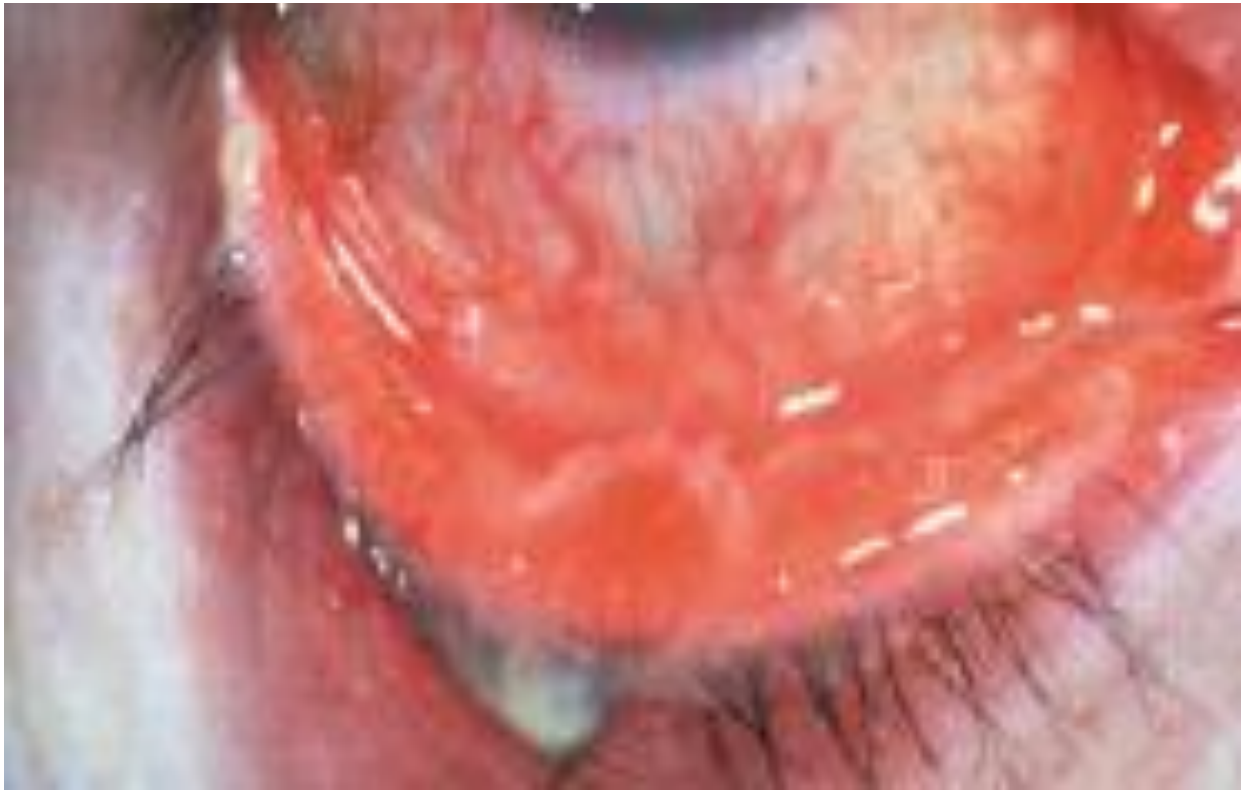
- History
  - Onset
  - Progression
  - Timescale
  - ***PAIN***
  - Systemic symptoms
  - PMH
  - Drug history
- Examination
  - Slit Lamp
  - Fundoscope
  - Ocular pressure (tonometer)
  - Fluroscien Dye
  - Dilate or not to dilate?
  - **ACUITY**
  - Fields

Conjunctivitis

- Bacterial
- Viral
- Allergic
- Neonatal

Bacterial Conjunctivitis

- Staphylococcus, Streptococcus, Pneumococcus and Haemophilus *CHLAMYDIA*
- Unilateral progressing to bilateral
- Common in children and elderly
- Contact lens use
- Contagious



Bacterial Conjunctivitis

Signs Symptoms

•Flushed subconjuntival vessesls
•Epiphoria and sticky discharge
•Crusting
•Burning and gritty

Examination

•Flushed subconjunctival vessels
•Epiphoria and sticky discharge
•Crusting
•Burning and gritty
•Ensure cornea is not involved (keratitis)
•Blocked caniculi
•If possible examine the tear

Investigations

- Swabs MC+S

Treatment

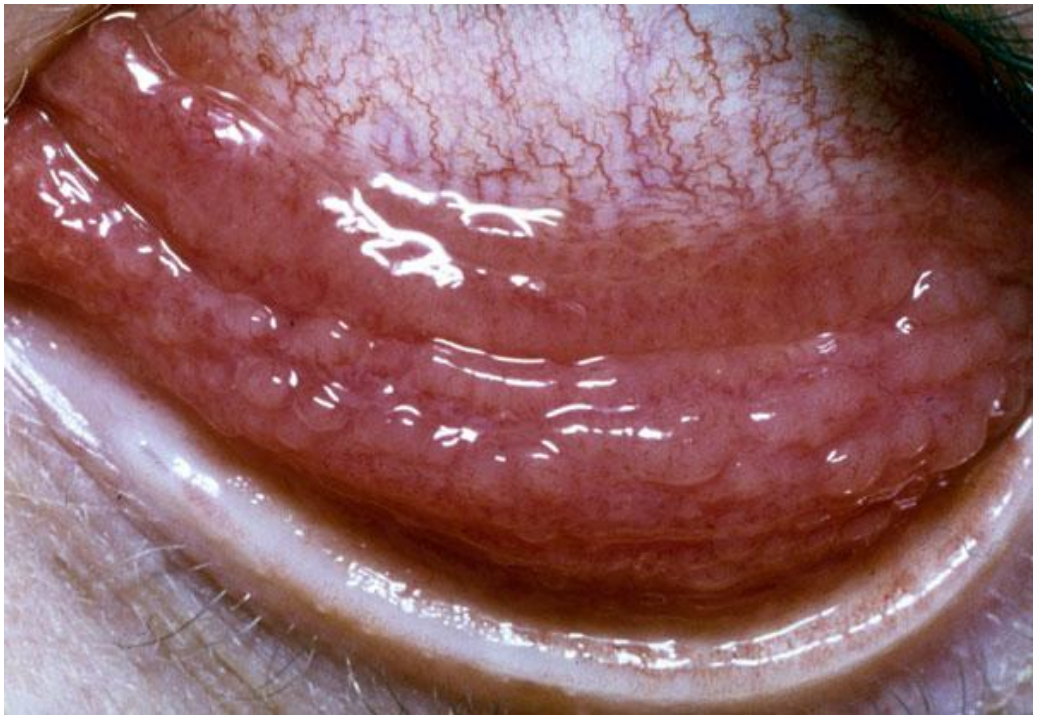
• Chloramphenicol eye drops/ointment
•Fusidic Acid

Chlamydial Conjunctivitis

- Giemsa staining
- Scraping
- Doxyclycine (or tetracycline +/- erythromycin)
- ? GUM clinic

Viral Conjunctivitis

- adenovirus, herpes virus and picornavirus
- ***Contagious***
- Bilateral
- ?concomitant URTI
- Very red, puffy, swollen conjunctiva
- Lymphadenopathy
- Self limiting
- May progress to bacterial conjunctivitis



Viral Conjunctivitis

Signs and symptoms

- Redness
- Puffy
- Burning
- Watering eye

Examination

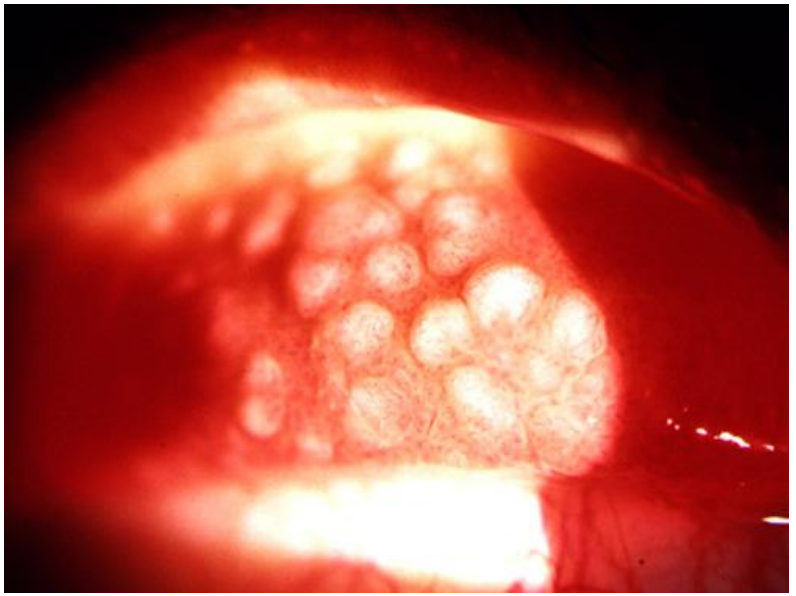
- Ensure cornea is not envolved
- Follicles

Treatment

- Self limiting
- Lasts for 3 weeks
- Good hand hygiene

Allergic Conjuntivitis

- Bilateral
- Seasonal (associated with hayfever/dust allergy/rhinitis)
- They may have a history of atopy
- Often resolves spontaneously or with treatment
- Oral/ topical antihistamines (chlorpheniramine, cetrezine)
- Topical steroids (prednisolone)



Allergic Conjunctivitis

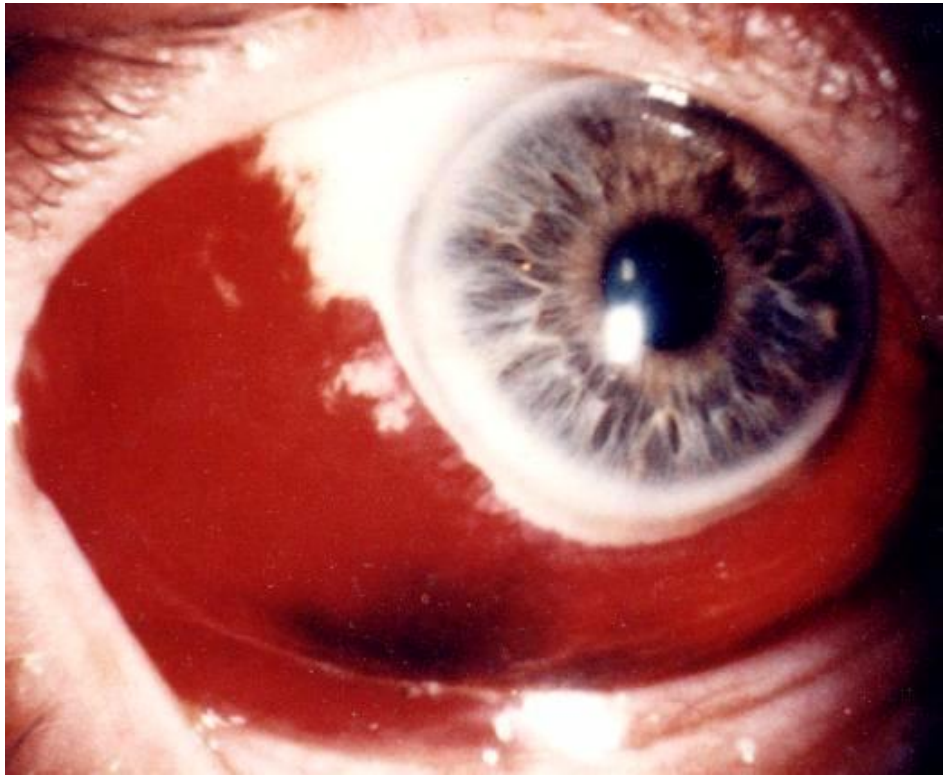
- Signs and symptoms
- Diffuse reddness
- ***ITCHY***
- Watery eye

Examination
Cornea may have abrasion due to rubbing
Fluroscien examination

Treatment
Avoid Allergens
Antihistamines
Steroids
Oral steroids if persistant

Subconjunctival haemorrhage

- Localised
- Widespread
- Painless
- Spontaneous or as the result of coughing/vomiting
- Need to r/o trauma or clotting disorder if recurrent
- FBC clotting screen
- Reassurance

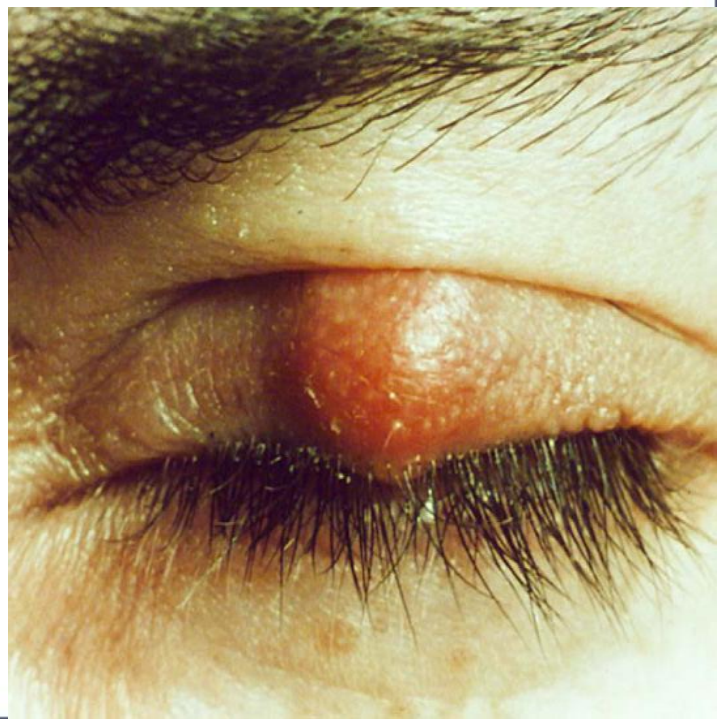


Blepharitis

- Common
- Chronic inflammation of eyelids, 3 types:
  - Seborrheic: with dandruff of brows/scalp
  - Staphylococcal infection: styes (hordeola)
  - Meibomian (lipid) gland dysfunction: chalazia

Symptoms

- Irritation/itching
- Burning
- Foreign body/gritty sensation
- Tearing
- – +/- Photosensitivity
- Intermittent blurred vision



Blepharitis

Signs

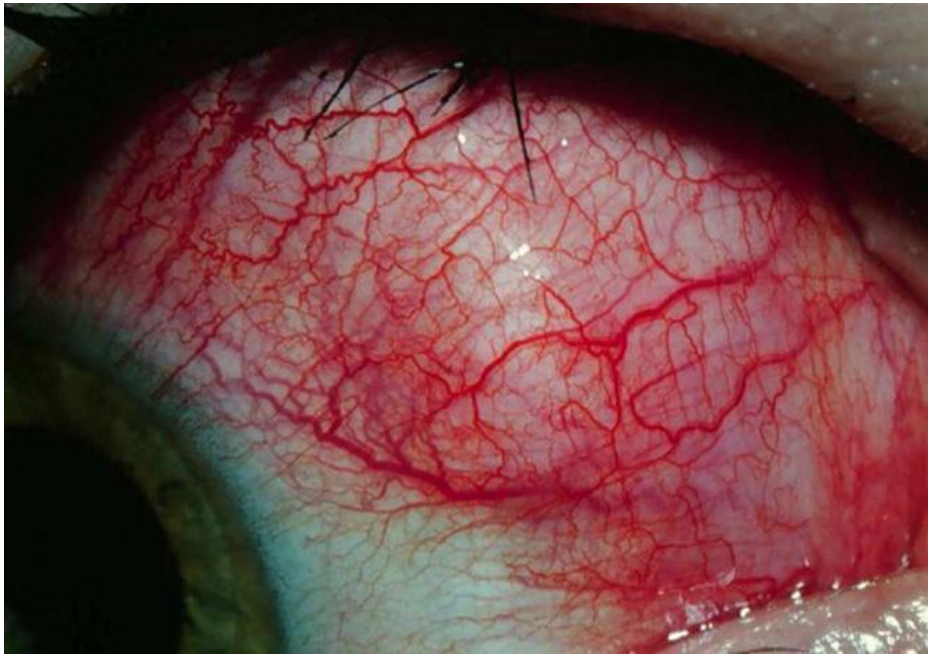
- – Erythema of lid margins
- – Eyelash debris
- – Eyelid crusting
- – Chalazia and hordeola (styes)
- – Eyelash loss
- – Chronic conjunctivitis

Treatment

- – Warm compresses, lid hygeine
- – Artificial tears
- – Occasional steroid/antibiotic ointment

Scleritis

- Cause is often unknown
- May have concomitant systemtic disease
- RA, SLE, GCA, Wegeners, Gout, TB
- 40-60 y/o
- Focal, diffuse
- Necrotising



Scleritis

Examination

- Thinning with resulting blusih hue
- Perforation
- Red, engorged subconjuntival vessels. Scleral vessels may be exposed
- Painful +++ tender to touch, may radiate to face and jaw

Investigation

•RA ANA ANCA IgE

•Scleral vessels do not blanch with phenylephedrine

•Ultrasound for posterior segment

Episcleritis

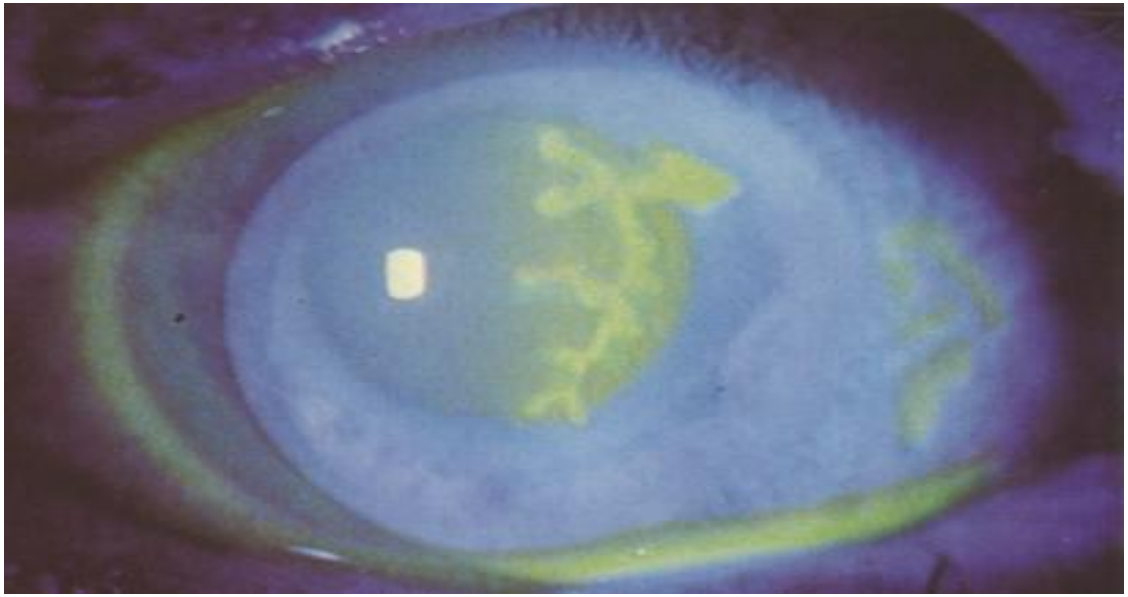
- Similar to Scleritis but only effects the upper layers of the sclera and more localised
- Self limiting and comes in bouts 1-3 weeks long
- Can be linked with the systemic diseases associated with Sclertis
- Less sever pain
- No intervention required
- Steriod (topical)

Bacterial Keratitis

- Bacterial infection of the cornea and is sight threatening- rapid progression to perforation
- Streptococcus, Pseudomonas, inclu Klebsiella, Enterobacter, Serratia, and Proteus), and Staphylococcus
- Contact lens wear
- Stromal infiltrates. Aqueous involvement
- Ciliary Flush

Herpes Simplex Keratitis

- Risk factors are the same as Bacterial Keratitis
- Pain is can be very severe or FB sensation
- Unilateral
- Variation in primary or latent infection



Herpes Simplex Keratitis

Examination

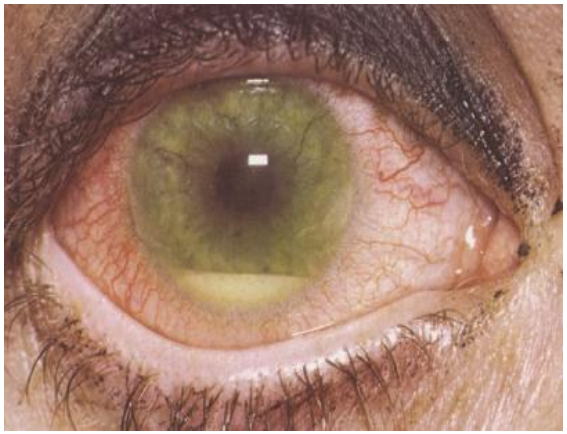
- Lymphadenopathy
- Dendritic ulcer
- Reduced corneal sensation
- Visual disturbance

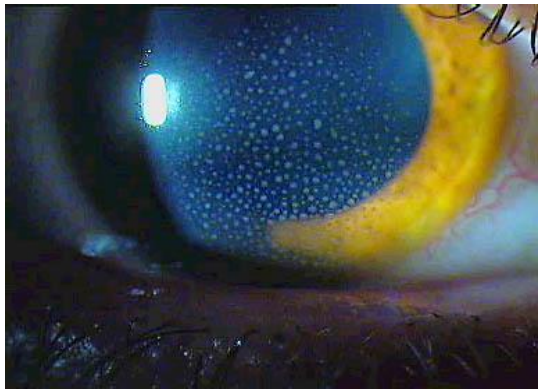
Treatment

•Urgent referral to ophthalmologist
•Possible epithelial debridement
•Topical trifluorothymidine 9x/day or Vidarabine ointment 5x/day
• Erythromycin ointment to eyelid lesions bid
•Possible topical or oral steroids
•Oral antivirals (acyclovir, Valtrex) used often forprophylaxis in recurrent cases

Anterior Uveitis

- Inflammation on the ciliary body and iris
- Infection, systemic diseases (HLAB27 diseases such as ankylosing spondylitis and sarcoidosis) , trauma/sugery
- Intense pain
- Photophobia
- Cilliary flushing
- Keractic Precipticates
- Anterior segment flare
- Sluggish pupil
- Synaechia
- ?Raised IOP
- Steriods

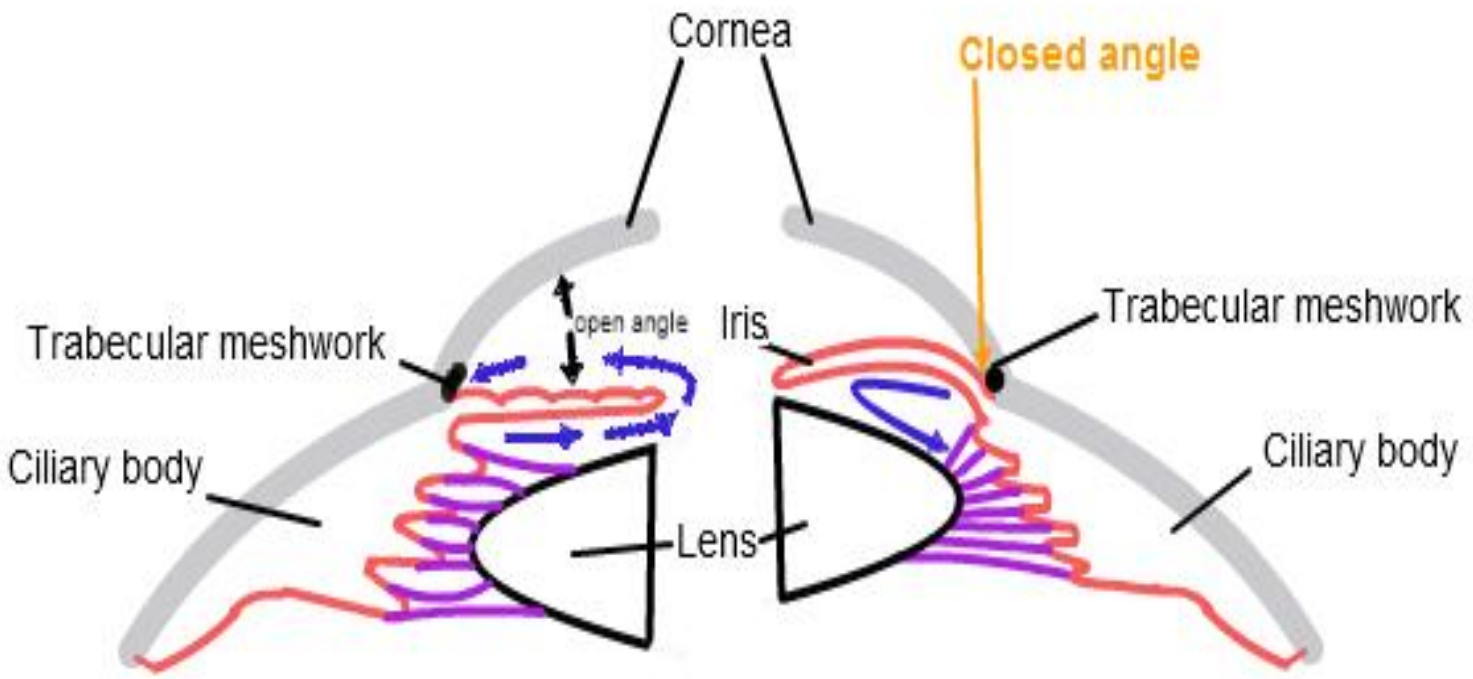




Angle Closure Glaucoma

- Emergency
- Effects patients in their 5th decade onwards
- Unilateral
- Acute onset
- Obstruction to the flow of aqueous causing a build up of pressure?
- Mid dilated pupil
- Caused by drugs, trauma, infection, spontaneous, dim illumination
- Predespoing anatomical features
- Intense and boring pain
- Corneal oedema, blurring haloes

Angle Closure Glaucoma



Angle Closure Glaucoma

Symptoms

- Unilateral blurred vision
- Halos around lights (monocular)
- Intense pain and photophobia, frontal headache
- Vasovagal symptoms (diaphoresis, N/V)

Signs

- Fixed, middilated pupil
- Diffuse conjunctival injection
- Corneal edema with blurring of light reflex
- Shallow anterior chamber bilaterally
- Raised IOP (over 60 mmHg)
- Optic disc atrophy

Treatment

All topical glaucoma agents, if not contraindicated

•IV Acetazolamide

•IV mannitol

•For IOP<50 and less severe loss of vision

•Topical glaucoma agents

•Topical steroids

•Once IOP decreased significantly and angle is open,

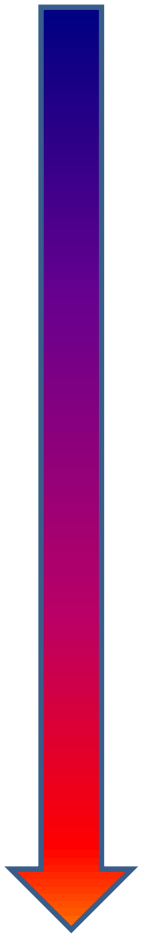
•Definitive treatment is laser (or surgical) peripheral iridotomy

Summary

- Pain and reduced visual acuity may be the most important signs of an emergent condition
- Inflammation, infection, trauma, idiopathic
- Ensure you consider systemic conditions

Further Reading

- Crash Course: Ophthalmology, Dermatology, ENT
- Oxford Handbook of Ophthalmology
- Moorfields Manual of Ophthalmology
- The Eye: Basic Sciences in Practice: Basic Science in Practice John V. Forrester



Easy read

Intense/Detailed